

W.P.

Coastal Zone
Information
Center

Georgia, Dept. of Natural Resources

00.34
32

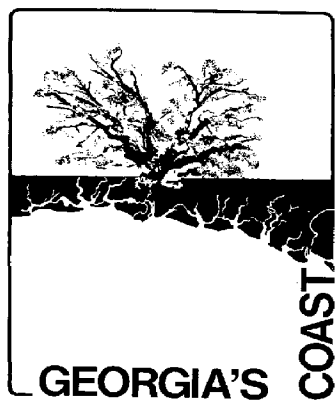
Excerpts

HANDBOOK:

building in the coastal environment

HT
393
.G4
H36
1975
c.2





Coastal Zone Management Technical Committee

Board of Regents of the University System
Brunswick-Glynn County Joint Planning Commission
Chatham County-Savannah Metropolitan Planning Commission
Coastal Area Planning and Development Commission
Georgia Department of Community Development
Georgia Department of Human Resources
Georgia Department of Natural Resources
Georgia Department of Transportation
Georgia Forestry Commission
Georgia Ports Authority
Georgia Soil and Water Conservation Commission
Office of Planning and Budget (lead agency)

This publication was funded in part by N.O.A.A.,
U.S. Department of Commerce, for the Georgia
Coastal Zone Management Program.

LE 1376.614 H36 1975

Excerpts

HANDBOOK:

building in the coastal environment

Prepared by

Resources Planning Section
Office of Planning and Research
Georgia Department of Natural Resources
270 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-5164

Consultant

Robert T. Segrest, AIA, Assoc. AIP
158 Hale Street, N.E.
Atlanta, Georgia 30307

May, 1975



Joe B. Tanner
COMMISSIONER

Department of Natural Resources

270 WASHINGTON ST., S.W.
ATLANTA, GEORGIA 30334
(404) 656-3500

June 15, 1975

The attached publication, Handbook: Building in the Coastal Environment, has been written to provide site-specific guidelines for making developing activities compatible with coastal natural resources. I hope that these guidelines will be useful to planning agencies, developers, and citizens.

During the fall of 1974, over 100 copies of the draft Handbook were circulated to organizations throughout the coastal region for review and comment. We have received comments from more than 35 organizations in the past months. Many of the review comments have been extensive, and most helpful for improving the Handbook.

This Handbook was prepared as part of the contribution of the Department of Natural Resources to the Georgia Coastal Zone Management Program. Hopefully, the guidelines provided here will be useful in considering future policies and programs for the Georgia coast.

Sincerely,

A handwritten signature in dark ink, appearing to read "Joe D. Tanner", written over a circular stamp.

Joe D. Tanner
Commissioner

JDT/ldp

Table of Contents

*Using the HANDBOOK	1
----------------------------	----------

The Site

*the Legal Environment	9
-------------------------------	----------

the Economic Environment

the Built Environment

*the Natural Environment	31
---------------------------------	-----------

Planning/Design

Site Analysis - A Summary

Do's and Don't's

Construction

Do's and Don't's

Buying/Selling

Guidelines

***Sections included in Excerpts.**

Introduction

Georgia's coast is a unique and special area of the State. The richness and diversity of its resources, ranging from the barrier islands to the inland plains, is the basis for a complex natural environment which is unmatched on the Eastern Coast of the United States.

In the early history of urbanization, cities were planned and built which became centers for shipping and other commercial activity. Today, the abundance of resources continues to attract recreation, shipping, fishing, and other water-related uses together with the communities necessary to support them. The evolution of these communities, as well as the long history of pre-colonial settlement, has resulted in a cultural history which, like the natural environment, is also rich and diverse.

Paradoxically, it is the attractiveness and abundance of these resources coupled with an ignorance of their true value, fragile vulnerability, and irreplaceability which may ultimately lead to their disappearance.

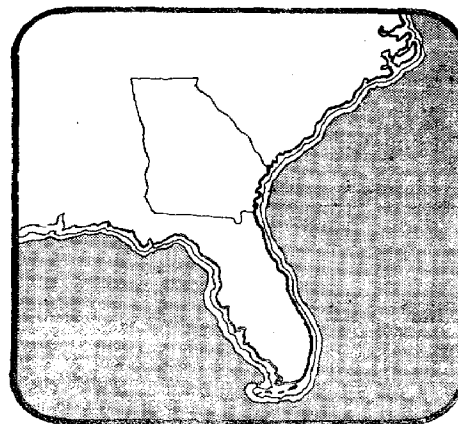
This purpose of this Handbook is to provide information and site-specific guidelines for making the development of residential communities compatible with the need to conserve and protect natural and cultural resources of the coast. It is designed as a working tool for government officials, planners, developers, and interested citizens concerned about the future of the Georgia Coast.

Using the Handbook

Where to Use the Handbook: The Coastal Region

The Coastal Region is defined:

- in natural terms, as the area in which certain natural systems, which have an important relationship to the marine and estuarine waters, generally coexist. The location, identification, and understanding of these systems and their sensitivity to the impact of residential construction is a necessary first step in the resolution of potential conflicts between the man-made and the natural environments.
- in cultural terms, as a composite of the communities which exist, or which have existed, as a result of man's use of coastal resources for his own benefit. These communities, as well as the sites and artifacts of previous ones, are an important aspect of the unique quality of the coastal region.
- in legal terms, as the area in which rules and regulations which have been developed to protect and maintain coastal resources, are enforced through the appropriate agencies.
- in economic terms, as the area in which coastal resources are bought and sold. An understanding of the nature and extent of this market is an important factor not only in insuring the viability of a development project but also in maintaining a proper relationship between the demands of new development and the economic base of the existing community.



Defining the User

Private


developer	builder	con- sultant	lender
-----------	---------	-----------------	--------

Government

federal	state	apdc	local
---------	-------	------	-------

Public

con- sumer	neighbor	group
---------------	----------	-------



It is the common interest of both the public and private sectors to protect and preserve those natural resources which contribute to the quality of our environment. For this reason, the Handbook is directed toward anyone who may be engaged in the development of land for residential purposes in the coastal region of Georgia. The range of application is therefore extremely broad and includes developers, consultants, government officials as well as the general public, all of whom are important participants in the development process.

The types of projects addressed are equally broad. Much of the future residential construction on the Georgia Coast will be in the form of large developments constructed on undeveloped or minimally developed land. On the other hand, the form of the existing community will doubtlessly change through the addition of small projects and "in-fill" construction on vacant land and there will be a continuation of "owner-built" homes in urban and rural areas. Whatever the building or project type, this Handbook can provide useful information for the planning, design, and construction process.

Organization of the HANDBOOK

The Handbook has been designed to be simply and quickly used. For a comprehensive review of the environmental aspects of residential development, the sections may be read in sequence. If particular problems have been identified, Figure 1--The User - Handbook Matrix - can be consulted in order to locate those sections which are most relevant.

The Sections are as follows:

1. The Site and the Legal Environment
A summary of the existing rules and regulations which control the impact of development on the natural environment.

2. The Site and the Economic Environment
A summary of those economic factors which may have a bearing on the environmental aspects of a development.

3. The Site and the Built Environment
The description of the relationship of the proposed project and the Existing Community (Infrastructure, Historical/Archaeological, Surrounding Development).

4. The Site and the Natural Environment
A description of the natural systems (and their sensitivity to development) which coexist in the coastal region, together with a description of the natural features (and their importance in planning and designs) which make up these systems.

5. Planning and Design

A summary of methods for using Site Information in the planning and design of residential development and a catalog of suggested planning and design solutions to particular environmental conflicts.

6. Construction

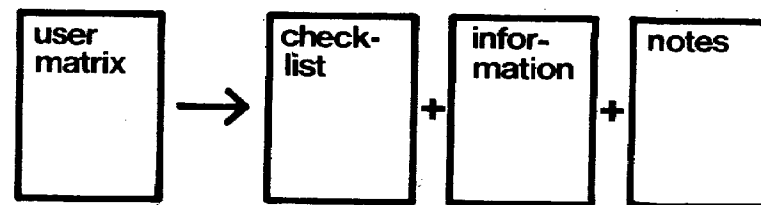
A catalog of suggested solutions to problems which may be encountered in construction.

7. Buying and Selling

A summary of factors which should be considered by the consumer before buying residential property.

In addition to the body of each Section, a checklist of relevant information and pages for Notes are included.

Typical Section

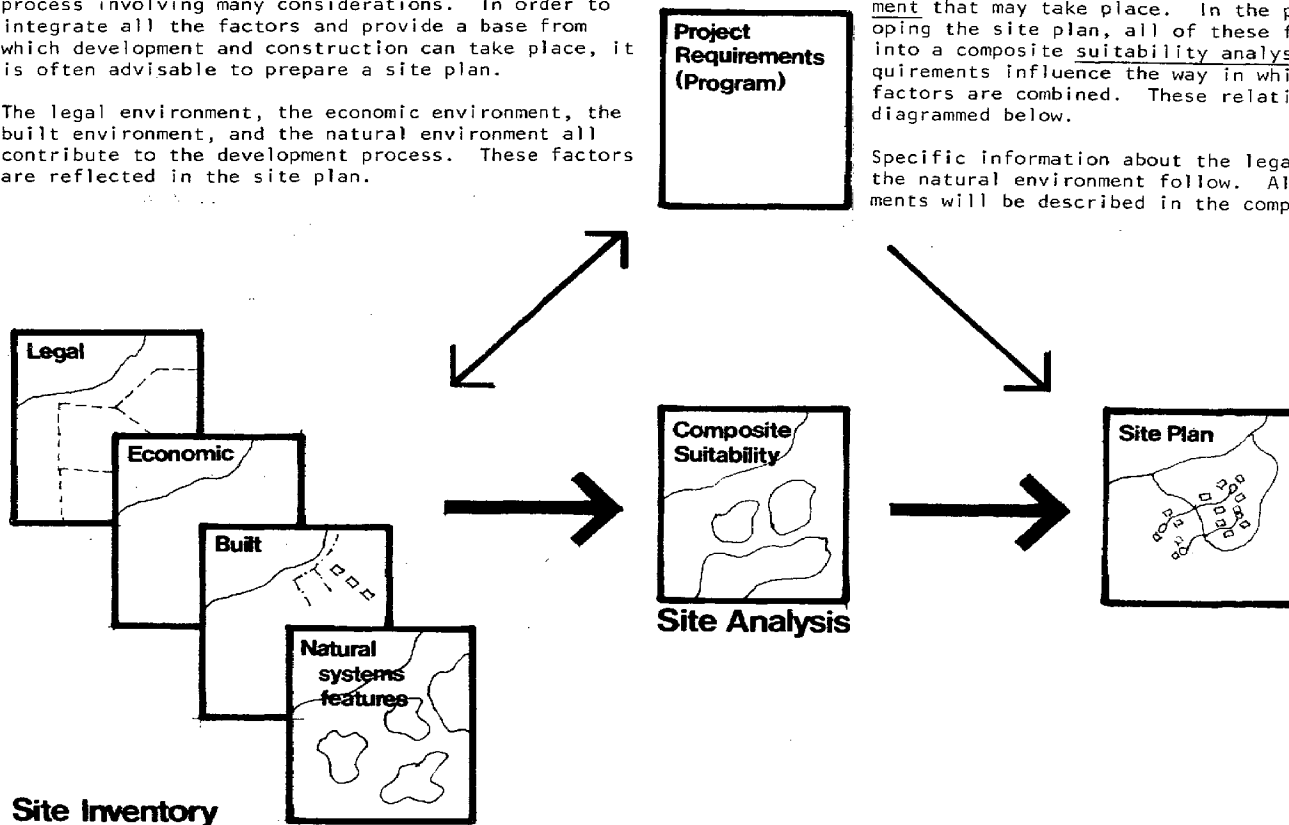


As every developer is aware, the process of turning raw land into a residential development is a complex process involving many considerations. In order to integrate all the factors and provide a base from which development and construction can take place, it is often advisable to prepare a site plan.

The legal environment, the economic environment, the built environment, and the natural environment all contribute to the development process. These factors are reflected in the site plan.

Each of these different environments affects the location of the development and the type of development that may take place. In the process of developing the site plan, all of these factors are combined into a composite suitability analysis. Project requirements influence the way in which these different factors are combined. These relationships are diagrammed below.

Specific information about the legal environment and the natural environment follow. All of the environments will be described in the complete Handbook.



Evolution of the Site Plan



the Site

- 1 the Legal Environment**
- 2 the Economic Environment**
- 3 the Built Environment**
- 4 the Natural Environment**

Understanding the Site

The User may view the potential site from several perspectives. If he is a developer, he will most likely be concerned with economic feasibility--the cost of the site as raw land and the cost of developing and selling it versus the income to be generated. The developer and the government agency

will be concerned with permissibility--the degree to which laws (ordinances, rules, regulations, etc.) define how the land may be used--as well as the availability of services (roads, sewers, water, power, etc.) to support the proposed development. When combined with natural suitability--the ability of the site to maintain its natural integrity when developed--the sum of these factors can give the User an indication of the composite suitability of the Site for the proposed use.

The site is more than a "piece of land". For purposes of illustration it could be compared to a layer cake, each layer representing unique conditions which, when combined, act together to give an overall definition to the site. The first layer is the natural environment. Unaffected by the actions of man, the site will more likely be in a state of relative equilibrium in which a complex set of factors support and sustain each other. The natural environment is a free system--containing all the elements necessary to continue and evolve indefinitely at no external cost. The rest of the cake is man-made. The second layer--the legal environment--is composed of a set of rules and regulations which buffer and control the affect of the next two layers on the first. The third layer--the economic environment--defines the site in terms of its monetary value and may compliment or, all too often, contradict its value as a Natural Environment. The final layer is the built environment which is what man has built on, above and under the land.

The success or failure of site development is often a product of how well the developer, the lender, the government official, and the consumer understand the nature of the site before it is developed. The following sections describe the site in terms of its four constituent environments: Legal, Economic, Built, and Natural.

Checklist: the Legal Environment

Rules and Regulations	Agency to Contact for Information
<input type="checkbox"/> Background information, including overview of regulations and requirements	Planning Commissions
<input type="checkbox"/> Zoning Regulations	Planning Commissions Building and Zoning Officials
<input type="checkbox"/> Subdivision Regulations	Planning Commissions
<input type="checkbox"/> Construction Codes	Building Officials
<input type="checkbox"/> Permits for Septic Tanks	County Health Departments Georgia Department of Human Resources
<input type="checkbox"/> Regulations for Private Wells	County Health Departments
<input type="checkbox"/> Sand Dune Protection Regulations	Planning Commissions Building and Zoning Officials
<input type="checkbox"/> Georgia Land Sales Act Requirements	Secretary of State
<input type="checkbox"/> Permits for Alteration of Marshlands	Georgia Department of Natural Resources
<input type="checkbox"/> U. S. Army Corps of Engineers Permits	U. S. Army Corps of Engineers
<input type="checkbox"/> Permits for Causeways or Bridges	U. S. Department of Housing and Urban Development
<input type="checkbox"/> Flood Plain Regulations	Georgia Department of Natural Resources U. S. Department of Housing and Urban Development Banks and Local Lenders
<input type="checkbox"/> Environmental Protection Regulations	
<input type="checkbox"/> Water Quality	Georgia Department of Natural Resources
<input type="checkbox"/> Air Quality	Georgia Department of Natural Resources
<input type="checkbox"/> Solid Waste Management	Georgia Department of Natural Resources
<input type="checkbox"/> Potable Water Supply	Georgia Department of Natural Resources
<input type="checkbox"/> Groundwater Use Permits	Georgia Department of Natural Resources
<input type="checkbox"/> Land Reclamation	Georgia Department of Natural Resources
<input type="checkbox"/> Erosion and Sedimentation	Planning Commissions Soil and Water Conservation Districts
<input type="checkbox"/> Federal Legislation Protecting Historic and Archaeological Sites	Georgia Department of Natural Resources
<input type="checkbox"/> State Clearinghouse Procedure	Planning Commissions State Office of Planning and Budget Georgia Department of Natural Resources

the Legal Environment

Development takes place in a legal environment which has evolved to protect the health, safety and welfare of the general public. It is composed of regulations which usually contain specific standards or procedures for the undertaking of some activity. For example, land use controls, such as zoning, and construction standards, such as subdivision regulations and building codes, work together to insure an acceptable level of building quality. Other regulations are designed to protect the quality of the natural environment by controlling activity in marshlands and sand dunes as well as activity that may affect air and water. Still other regulations, such as the Interstate Land Sales Full Disclosure Act, are designed to protect the property buyer from unscrupulous developers.

Too often the developer becomes aware of governmental regulations and requirements after he has committed himself to a particular plan. When this occurs, costly delays and plan changes may be required. When all relevant regulations and other legal constraints are considered at an early point in the development process, many of these costly delays can be avoided. Persons are available in government offices to assist in the interpretation and understanding of regulations before development is initiated.

The first step in the development process is the review of background information, plans, and governmental regulations that affect development. An overview of information and approval requirements saves time and dollars for the property owner, and insures that the governmental approval process will proceed as quickly as possible.

A great deal of information and assistance is available from local planning offices in Savannah and Brunswick, as well as the Coastal Area Planning and Development Commission.

The following is a summary of existing regulations, as well as information sources, which relate to residential construction in the coastal region. This summary is not a substitute for direct contact with responsible agencies, or for thorough review of detailed standards and requirements. Since regulations may change from time to time the lists should be updated as new information becomes available.

Zoning Regulations

Zoning regulations are administered by local governments to insure that land uses are properly located in relation to each other and to insure that adequate space in the community is provided for needed development. Effective zoning should protect the investment of the land owner and make the community a better and more pleasant place in which to live.

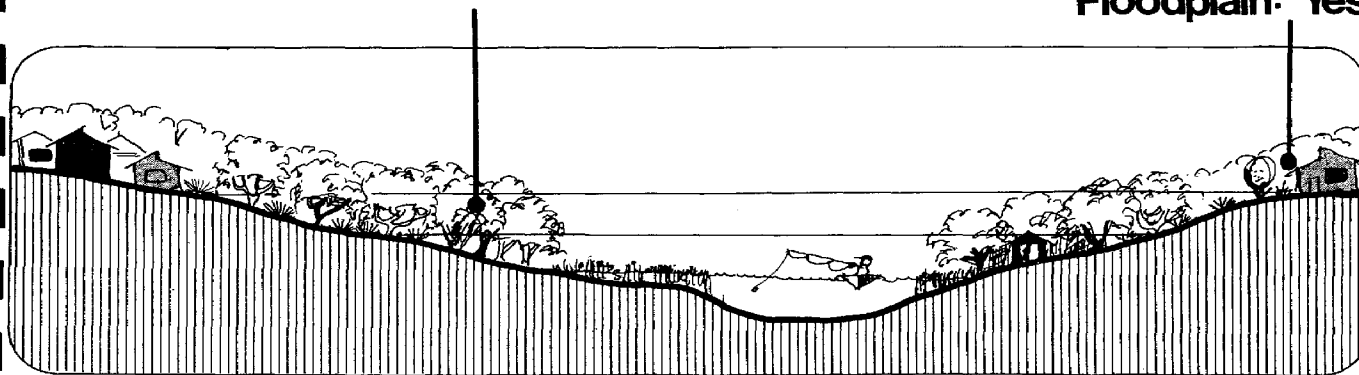
A zoning ordinance identifies the type of structure and density of structures permitted in each "zone." The ordinance is accompanied by a map showing the location of each zone in the community. The zoning ordinance and official map are the regulatory tools used to enforce the land use plan.

A "planned unit development" (PUD) district is often included in zoning regulations to allow developers of large areas to plan a district with several different types of land uses (such as commercial, residential and industrial) as an integral unit. Planned unit developments often have special approval procedures.

Flood plain areas are valuable when used for recreation, agriculture and wildlife habitats.

Construction placed in dry area where septic tank can properly function.

Floodplain: Yes



When buildings are constructed in the flood plain, problems may occur, such as sanitary sewer, or septic tank backups. Construction in the flood plain also reduces the vegetative cover which absorbs flood waters, sediments, and pollutants from upstream areas.

Problems associated with flooding often increase as a watershed becomes more urbanized. As development occurs, the area where the water can soak into the ground is decreased, and runoff of water from the surface increases. This, in turn, often increases flood further downstream.

Any water course, regardless of its present condition or past history, can threaten a development through flooding. Encroachments downstream can obstruct the flow of waters while the urbanized slopes of the watershed increase the runoff of water.

Most rivers overflow their channels every one and one-half to two years, although the more devastating floods occur at less frequent intervals. The 100-year flood,

When development occurs in the flood plain, special construction methods for the elevation of the ground floor of the building, may be necessary to meet National Flood Insurance Program requirements. Building requirements are designed to protect the property against flood damage, the safety of residents, and the cost of flood disaster relief to the general public. These requirements are especially important in coastal "high hazard" areas subject to flooding from hurricanes and coastal storms.

a flood which has a one percent possibility of occurring in any given year, is the flood level used in implementing the National Flood Insurance Program. Flood insurance costs can be saved by building outside areas of the 100-year flood.

The flood plain often contains areas of rich soils and productive wetland vegetation. Flood plains are ideal for open space, agricultural use, and wildlife habitat. Many types of recreation and nature study can take place in the flood plain without destroying natural values.

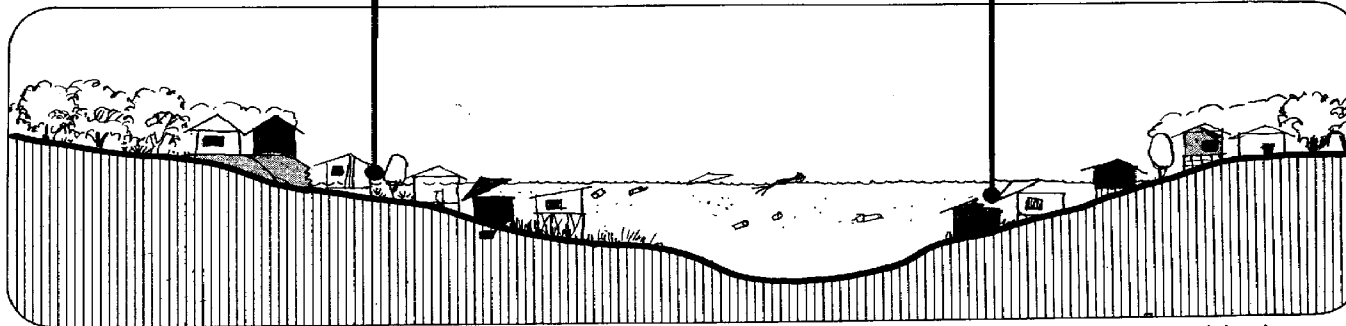
GUIDELINES

- 1) BUILD OUTSIDE THE 100-YEAR FLOOD TO AVOID PROPERTY DAMAGE AND HIGHER COSTS FOR CONSTRUCTION AND MAINTENANCE.
- 2) UTILIZE PRODUCTIVE FLOOD PLAIN AREAS FOR AGRICULTURE, WILDLIFE HABITAT, AND RECREATION.
- 3) WHERE BUILDING IS A NECESSITY, UTILIZE POLE AND BEAM CONSTRUCTION OR FOUNDATIONS THAT ALLOW WATER TO PASS UNDERNEATH THE STRUCTURE TO MINIMIZE FLOOD DAMAGE.

Siltation and erosion caused by indiscriminate building in flood plain areas may pollute rivers.

Floodplain: No

Construction activities in flood plain areas may lead to septic tank problems.

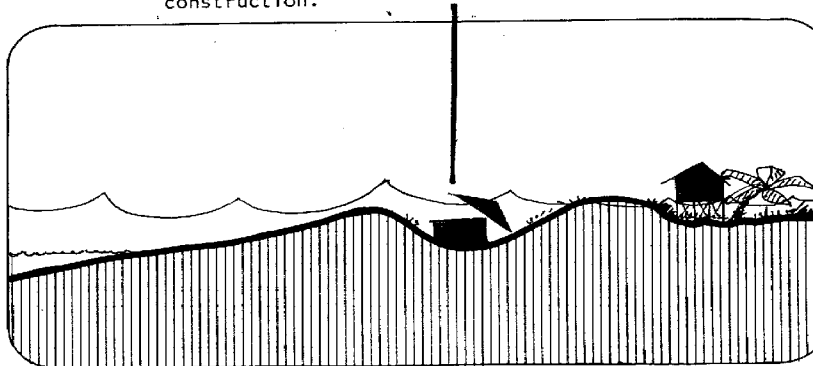


Flood plains are flat land areas adjacent to rivers, streams, ponds, oceans or bays that are subject to periodic inundation. They are of two types - riverine and coastal.

The natural function of a flood plain is to retain excess water in times of floods. Failure to recognize this fact has often led to rapid and haphazard development, resulting in increased flood hazards and damages.

Flooding can result in inconvenience, hardship, danger, and economic losses for those occupying the flood plain. It can also result in much greater public and private costs by causing disruption of utility and transportation services increases in health and safety hazards and damage to industries, businesses, residences and agricultural operations.

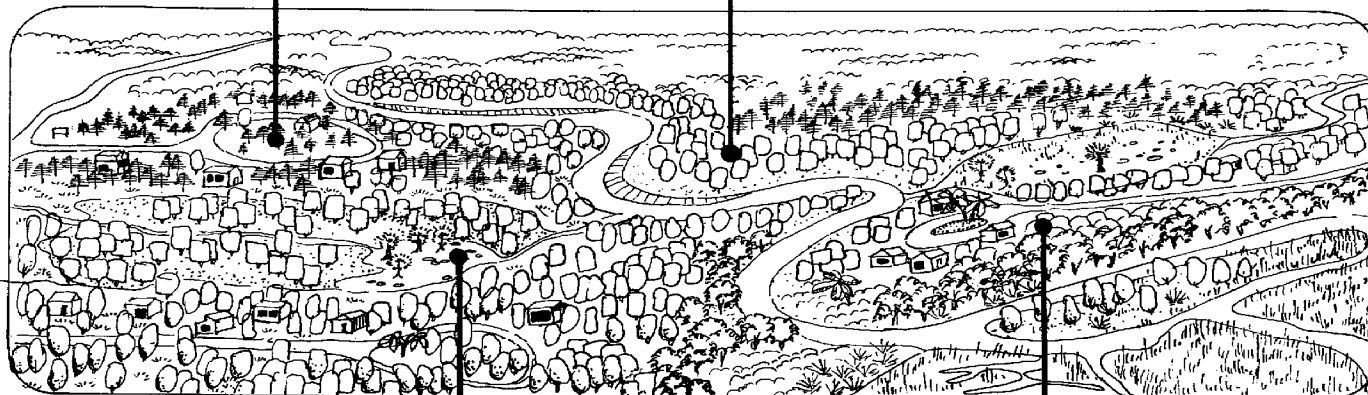
Severe damage from coastal hurricane caused by improper construction.



Pine flatwoods with conditions suitable for septic tanks may be appropriate locations for development.

Historic site protected and enhanced.

Coastal Plain: Yes



River swamps retained to support fisheries and wildlife, to protect water quality, and to absorb flood waters.

Hardwood and pine uplands above the floodplain are the most tolerant to development.

The coastal plains are characterized by gently rolling topography which offers little spatial variation and few vistas. Dense vegetative cover occurs in lowland depressions which generally contain silts, clays, and organic soils. When vegetation is cleared, the uplands are very sensitive to visual impact from development. The water table is usually near the

surface in both upland and lowland conditions creating some development problems.

Pine forests, usually occurring on well drained soils, are often transitional areas reflecting human disturbance. These areas will normally succeed to hardwoods unless constantly managed. These areas are often the most suitable for development if the soils contain the proper drainage conditions.

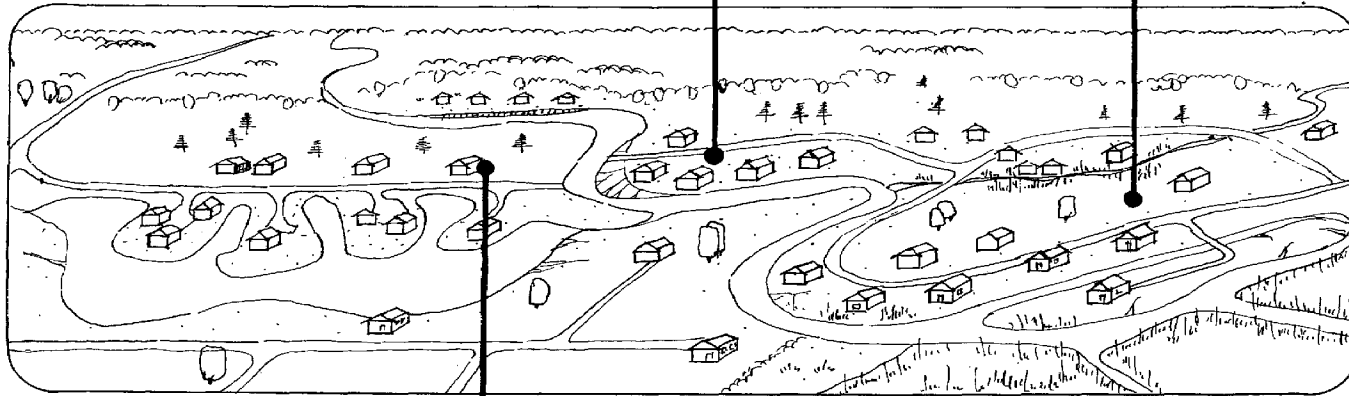
GUIDELINES

1. RIVER SWAMPS MUST REGULARLY DRAIN AS WELL AS FLOOD. ANY ALTERATION OF THIS CYCLE CURTAILS GROWTH AND PRODUCTIVITY OF THE NATURAL SYSTEM. THEY ARE INTOLERANT TO ANY TYPE OF DEVELOPMENT.
2. HARDWOOD LOWLANDS ARE NOT SUITED TO INTENSIVE DEVELOPMENT DUE TO THE HIGH WATER TABLE AND POSSIBLE FLOOD HAZARD. THEY WILL INCUR HIGHER DEVELOPMENT AND MAINTENANCE COSTS.
3. HARDWOOD AND PINE UPLAND ARE USUALLY MORE TOLERANT TO DEVELOPMENT. VEGETATION SHOULD BE UTILIZED TO THE UTMOST ADVANTAGE THROUGH CAREFUL SITE PREPARATION PRACTICE.
4. WHERE ARTIFICIAL WATERWAYS ARE BEING CONSIDERED, CONSULT BOTH A PROFESSIONAL HYDROLOGIST AND ENGINEER TO AVOID POTENTIAL SEPTIC, DRAINAGE AND GROUNDWATER PROBLEMS.
5. ALWAYS CHECK SOILS FOR SEPTIC TANK SUITABILITY BEFORE CONSTRUCTION.

Historic or archaeological site destroyed by indiscriminate development.

Removal of salt-tolerant vegetation and adjacent marsh edges may result in damage to inland vegetation and property.

Coastal Plain: No



Construction in lowland hardwood areas may create drainage and septic tank problems.

Filling or channelizing of river swamp destroys important recreation area.

Destruction of river swamp increases flooding problems.

Hardwood and pine uplands on moderately well drained loamy and sandy soils are usually appropriate for development. Where these areas are adjacent to the salt marsh, they often receive high winds and salt spray and are characterized by salt-tolerant species such as live oak and cabbage palm.

Wetlands with standing water throughout the year are characterized by different species of river swamp hardwoods such as the bald and pond cypress. They are a constant source of water for many types

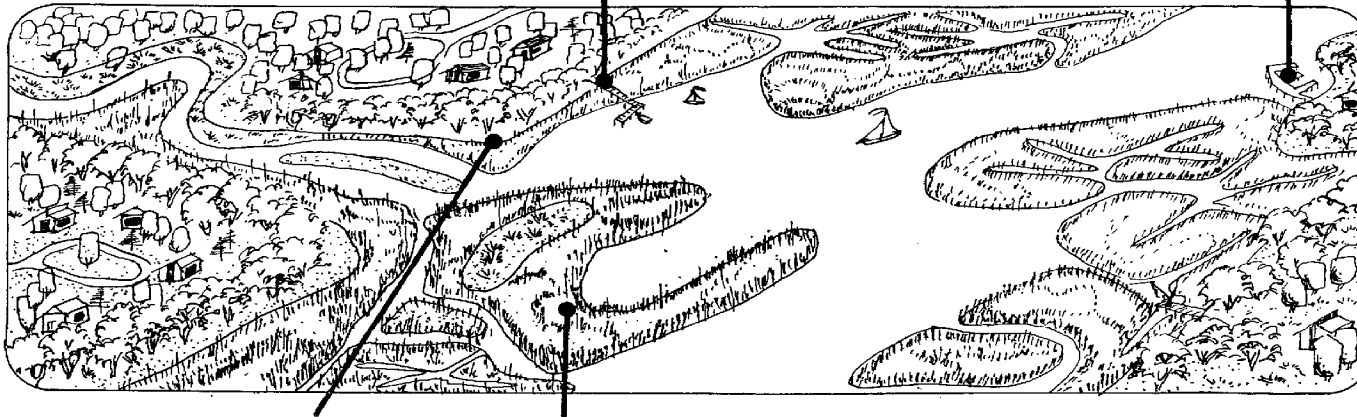
of wildlife and can be a valuable recreational asset when provided with educational interpretation facilities.

Low lying soils act as storage basins, thereby lowering flood crests, minimizing erosion potential and serving to reduce the destructiveness of severe floods. In densely populated areas, this is particularly important because urbanization intensifies the rate of runoff. Wooded wetlands also act as purification systems by removing certain contaminants or pollutants.

Locate marina in areas naturally protected and accessible to coastal waters.

Community docks reduce environmental impact on marshlands.

Marsh and Estuary: Yes



Bulkheads placed behind marshlands may be feasible but expensive.

Protect marshland vegetation for scenic value, shore protection, and fish and wildlife value.

To obtain access to navigation channels, the construction of piers and docks is recommended. Dredging of small channels will alter valuable marshlands and create a maintenance problem. When possible, community docks should be utilized to reduce visual obstruction of marshland and to reduce maintenance costs.

Marshlands and estuaries are intolerant to filling for construction purposes. Filling destroys the natural vegetation and hence the natural productivity of the marshland system. Development should take place on dry, upland areas.

GUIDELINES

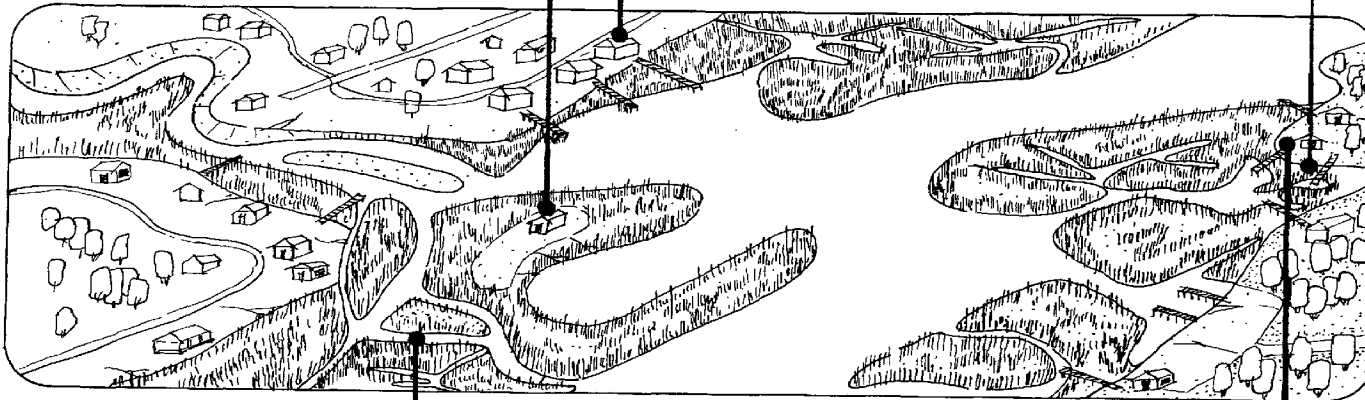
1. PRESERVE MARSHLANDS IN THEIR NATURAL STATE FOR SCENIC VALUES, FISH AND WILDLIFE HABITAT, AND SHORE PROTECTION.
2. USE PIERS AND DOCKS TO REACH EXISTING CHANNELS RATHER THAN CREATING NEW CHANNELS.
3. UTILIZE PUBLIC OR COMMUNITY DOCKS RATHER THAN MANY INDIVIDUAL DOCKS AND PIERS TO MINIMIZE DETRIMENTAL EFFECTS ON THE MARSHLANDS.
4. ESTUARINE SHORES ARE SUSCEPTIBLE TO FLOOD DAMAGE. DETERMINE FLOOD LEVELS PRIOR TO PURCHASING LAND FOR DEVELOPMENT.
5. RETAIN MARSH EDGE VEGETATION FOR WILDLIFE HABITAT AND WIND PROTECTION.

Marsh and Estuary: No

Residential construction in marsh area leads to septic tank problems.

Destruction of marsh edge vegetation harms wildlife and exposes property to wind.

Houses in flood prone areas may suffer permanent damage.



Dredging of artificial waterways in improper locations creates siltation and maintenance problems.

Filling of marshlands destroys a natural resource important for fish and wildlife, shore protection, recreation and education.

Coastal marshlands and estuaries form a natural buffer between the ocean and areas on the mainland. They enhance shoreline property values by protecting against erosion, slowing the force of storm surges, and providing visual and recreational amenities.

Marshlands in their natural state provide nutrients which support a diversity of fish, shellfish, and wildlife. One acre of marshland may produce ten

tons of material in one year, making it one of the most productive natural systems on earth. One acre of estuarine habitat may in turn yield more than 500 pounds of fish in the open ocean.

Coastal marshlands and estuaries also provide important nursery areas and places of shelter for many fish and shellfish. In turn, marshes are a source of food for birds and other animals.

Checklist: the Legal Environment

Rules and Regulations	Agency to Contact for Information
<input type="checkbox"/> Background information, including overview of regulations and requirements	Planning Commissions
<input type="checkbox"/> Zoning Regulations	Planning Commissions Building and Zoning Officials
<input type="checkbox"/> Subdivision Regulations	Planning Commissions
<input type="checkbox"/> Construction Codes	Building Officials
<input type="checkbox"/> Permits for Septic Tanks	County Health Departments Georgia Department of Human Resources
<input type="checkbox"/> Regulations for Private Wells	County Health Departments
<input type="checkbox"/> Sand Dune Protection Regulations	Planning Commissions Building and Zoning Officials
<input type="checkbox"/> Georgia Land Sales Act Requirements	Secretary of State
<input type="checkbox"/> Permits for Alteration of Marshlands	Georgia Department of Natural Resources
<input type="checkbox"/> U. S. Army Corps of Engineers Permits	U. S. Army Corps of Engineers
<input type="checkbox"/> Permits for Causeways or Bridges	U. S. Department of Housing and Urban Development
<input type="checkbox"/> Flood Plain Regulations	Georgia Department of Natural Resources U. S. Department of Housing and Urban Development Banks and Local Lenders
<input type="checkbox"/> Environmental Protection Regulations	
<input type="checkbox"/> Water Quality	Georgia Department of Natural Resources
<input type="checkbox"/> Air Quality	Georgia Department of Natural Resources
<input type="checkbox"/> Solid Waste Management	Georgia Department of Natural Resources
<input type="checkbox"/> Potable Water Supply	Georgia Department of Natural Resources
<input type="checkbox"/> Groundwater Use Permits	Georgia Department of Natural Resources
<input type="checkbox"/> Land Reclamation	Georgia Department of Natural Resources
<input type="checkbox"/> Erosion and Sedimentation	Planning Commissions Soil and Water Conservation Districts
<input type="checkbox"/> Federal Legislation Protecting Historic and Archaeological Sites	Georgia Department of Natural Resources
<input type="checkbox"/> State Clearinghouse Procedure	Planning Commissions State Office of Planning and Budget Georgia Department of Natural Resources

The following is a summary of existing regulations, as well as information sources, which relate to residential construction in the coastal region. This summary is not a substitute for direct contact with responsible agencies, or for thorough review of detailed standards and requirements. Since regulations may change from time to time the lists should be updated as new information becomes available.

Zoning Regulations

Zoning regulations are administered by local governments to insure that land uses are properly located in relation to each other and to insure that adequate space in the community is provided for needed development. Effective zoning should protect the investment of the land owner and make the community a better and more pleasant place in which to live.

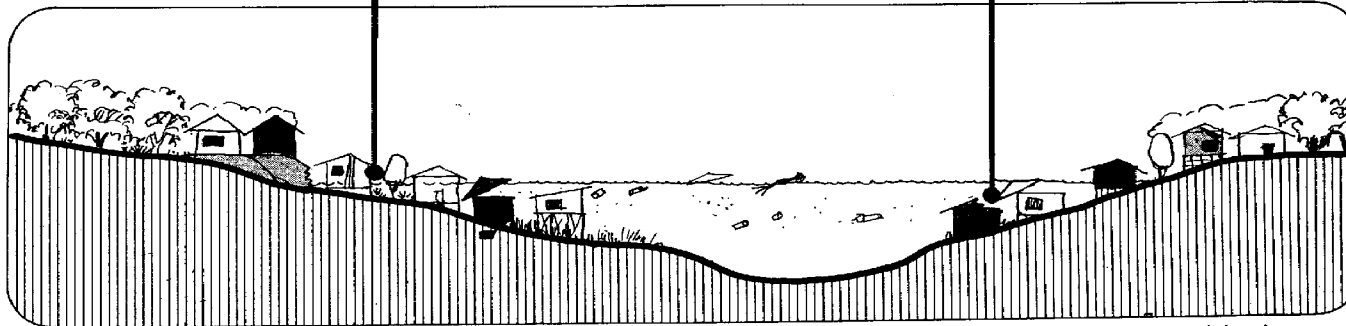
A zoning ordinance identifies the type of structure and density of structures permitted in each "zone." The ordinance is accompanied by a map showing the location of each zone in the community. The zoning ordinance and official map are the regulatory tools used to enforce the land use plan.

A "planned unit development" (PUD) district is often included in zoning regulations to allow developers of large areas to plan a district with several different types of land uses (such as commercial, residential and industrial) as an integral unit. Planned unit developments often have special approval procedures.

Siltation and erosion caused by indiscriminate building in flood plain areas may pollute rivers.

Floodplain: No

Construction activities in flood plain areas may lead to septic tank problems.

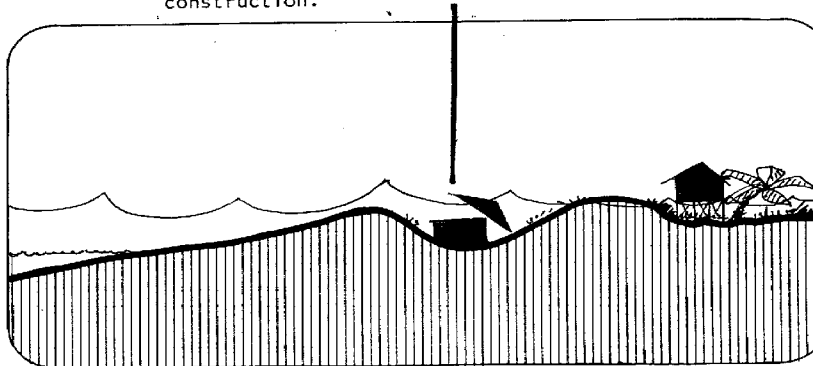


Flood plains are flat land areas adjacent to rivers, streams, ponds, oceans or bays that are subject to periodic inundation. They are of two types - riverine and coastal.

The natural function of a flood plain is to retain excess water in times of floods. Failure to recognize this fact has often led to rapid and haphazard development, resulting in increased flood hazards and damages.

Flooding can result in inconvenience, hardship, danger, and economic losses for those occupying the flood plain. It can also result in much greater public and private costs by causing disruption of utility and transportation services increases in health and safety hazards and damage to industries, businesses, residences and agricultural operations.

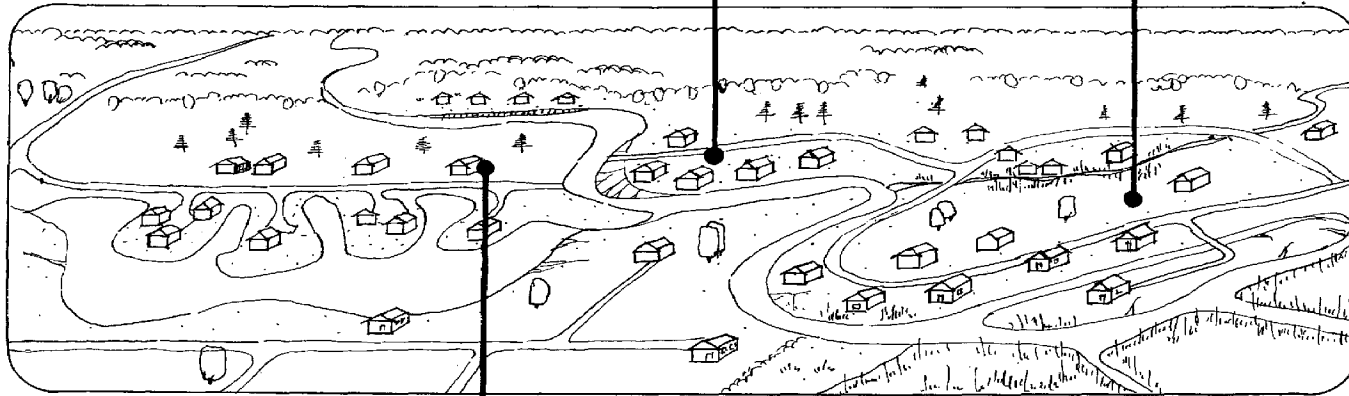
Severe damage from coastal hurricane caused by improper construction.



Historic or archaeological site destroyed by indiscriminate development.

Removal of salt-tolerant vegetation and adjacent marsh edges may result in damage to inland vegetation and property.

Coastal Plain: No



Construction in lowland hardwood areas may create drainage and septic tank problems.

Filling or channelizing of river swamp destroys important recreation area.

Destruction of river swamp increases flooding problems.

Hardwood and pine uplands on moderately well drained loamy and sandy soils are usually appropriate for development. Where these areas are adjacent to the salt marsh, they often receive high winds and salt spray and are characterized by salt-tolerant species such as live oak and cabbage palm.

Wetlands with standing water throughout the year are characterized by different species of river swamp hardwoods such as the bald and pond cypress. They are a constant source of water for many types

of wildlife and can be a valuable recreational asset when provided with educational interpretation facilities.

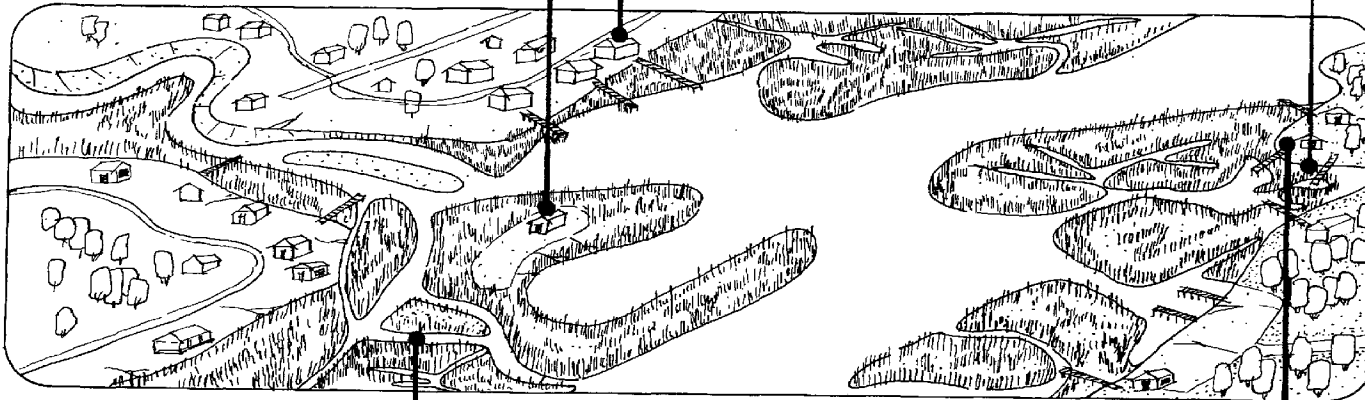
Low lying soils act as storage basins, thereby lowering flood crests, minimizing erosion potential and serving to reduce the destructiveness of severe floods. In densely populated areas, this is particularly important because urbanization intensifies the rate of runoff. Wooded wetlands also act as purification systems by removing certain contaminants or pollutants.

Marsh and Estuary: No

Residential construction in marsh area leads to septic tank problems.

Destruction of marsh edge vegetation harms wildlife and exposes property to wind.

Houses in flood prone areas may suffer permanent damage.



Dredging of artificial waterways in improper locations creates siltation and maintenance problems.

Filling of marshlands destroys a natural resource important for fish and wildlife, shore protection, recreation and education.

Coastal marshlands and estuaries form a natural buffer between the ocean and areas on the mainland. They enhance shoreline property values by protecting against erosion, slowing the force of storm surges, and providing visual and recreational amenities.

Marshlands in their natural state provide nutrients which support a diversity of fish, shellfish, and wildlife. One acre of marshland may produce ten

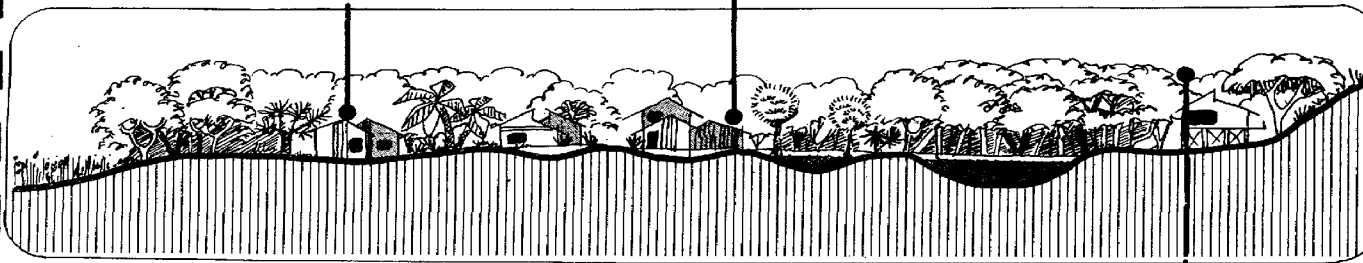
tons of material in one year, making it one of the most productive natural systems on earth. One acre of estuarine habitat may in turn yield more than 500 pounds of fish in the open ocean.

Coastal marshlands and estuaries also provide important nursery areas and places of shelter for many fish and shellfish. In turn, marshes are a source of food for birds and other animals.

Island Woodland: Yes

Salt tolerant vegetation left as a buffer to protect vegetation and land further inland from salt spray.

Preservation of wind-pruned shrubs protects woodlands from wind and spray damage.



Conservation of vegetation through selective clearing and land planning enhances the character of the site.

Brackish sloughs and freshwater ponds are lowlying areas which are commonly moist or marshy. They are found between dune rows and in the forests. In time of heavy rain or high storm water, the slough acts as a drainage area by collecting excess water. Afterwards, the slough may remain a holding pond, pending evaporation of leftover water into the air or use by plants and animals. These areas are sensitive to alteration.

Due to the high water table and easily drained sandy soils on the surface, pollution of ground water through septic systems or artificial waterways may be a problem. When development occurs on the coastal islands, special efforts to control density and impacts on natural systems must be made.

GUIDELINES

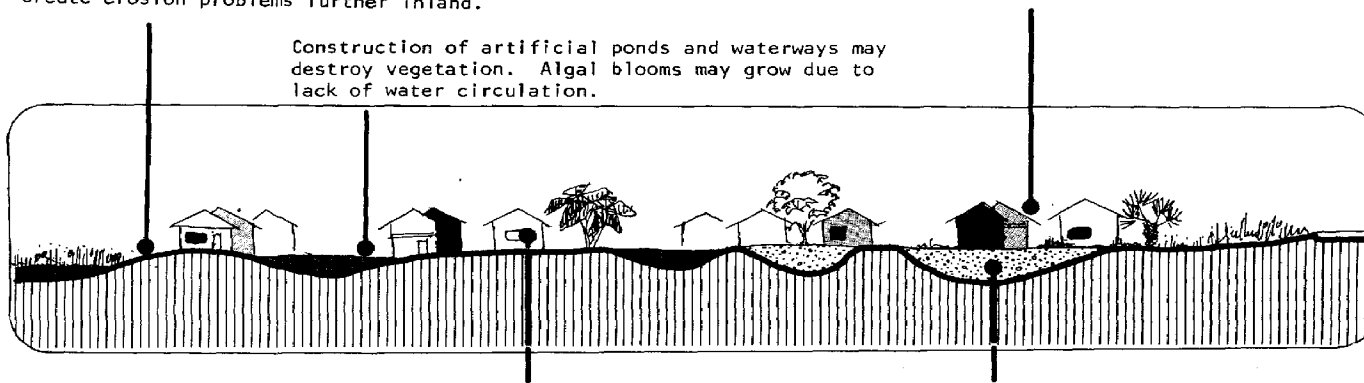
1. UPLAND VEGETATION AT THE MARSHLAND EDGE SHOULD BE RETAINED AS WILDLIFE HABITAT AND SHOULD NOT BE CONSIDERED FOR DEVELOPMENT.
2. VEGETATION BETWEEN WIND PRUNED SHRUBS ON THE DUNES AND THE ISLAND FORESTS SHOULD BE RETAINED TO PROVIDE PROTECTION TO THE FOREST FROM SALT SPRAY AND WIND.
3. BRACKISH SLOUGHS AND FRESHWATER PONDS ARE A CRITICAL FACTOR IN THE SURVIVAL OF ISLAND WILDLIFE, AND THESE AREAS ABSORB EXCESS RUNOFF AND SHOULD NOT BE ALTERED.
4. VEGETATION SHOULD NOT BE DESTROYED THROUGH INDISCRIMINATE CLEARING. LOCAL VEGETATION GIVES THE ISLAND ITS UNIQUE ATMOSPHERE AND MINIMIZED DAMAGE FROM WEATHER AND SOIL EROSION. WHEN SELECTING A SITE, DETERMINE IF THE DEVELOPMENT AND DENSITY IS COMPATIBLE WITH THE EXISTING VEGETATION.
5. IN ORDER TO PROTECT LIMITED FRESH WATER SYSTEMS, A PROFESSIONAL HYDROLOGIST OR ENGINEER SHOULD BE CONSULTED WHEN ARTIFICIAL WATERWAYS, WELLS, AND SEPTIC TANKS ARE USED.

Island Woodland: No

Removal of salt tolerant vegetation may create erosion problems further inland.

Loss of vegetation through indiscriminate clearing practices destroys the character of the site.

Construction of artificial ponds and waterways may destroy vegetation. Algal blooms may grow due to lack of water circulation.



Buildings with septic tanks near freshwater ponds may pollute groundwater.

Filling of sloughs and ponds destroys vegetation and wildlife habitats.

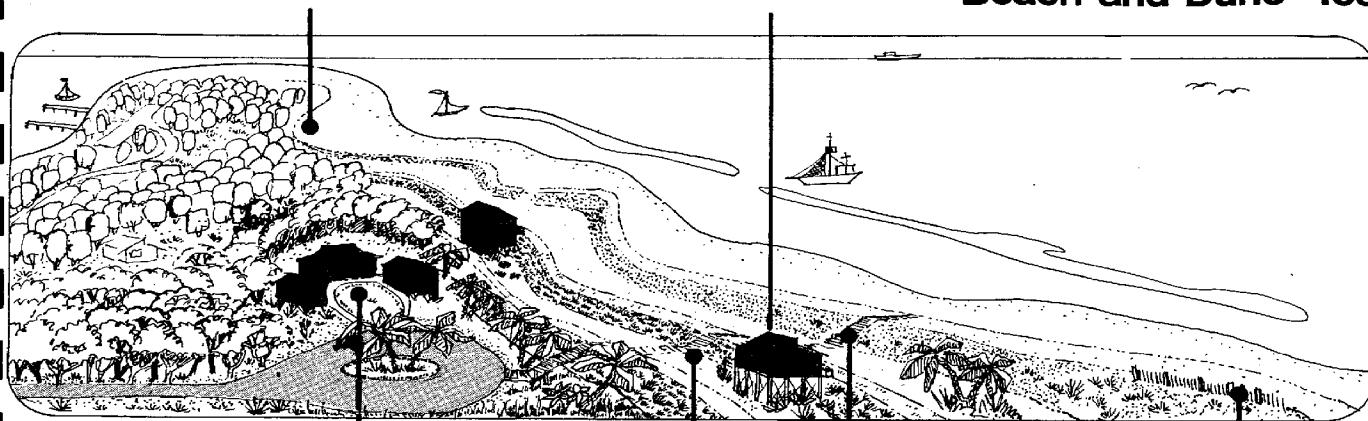
On coastal islands, the forest area is located landward of the beach and sand dunes. These dense land forests are generally the best suited areas on the coastal islands for human use primarily because they are partially protected from wind and waves. However, because the coastal islands in Georgia are barrier islands that protect the mainland area, most development on the coastal islands may be subject to flooding or destruction in major hurricanes and storms.

The island forest usually supports hardwoods on sandy soils that are moderately to well drained. When these areas are adjacent to a salt marsh, the vegetation receives high winds and salt spray, and is characterized by salt tolerant species such as live oak, cabbage palm, and wax myrtle. Species found in the island interior include loblolly pine, juniper, southern magnolia, and red bay.

Avoid construction in beach and sand dune areas.

Housing elevated on stilts for flood protection.

Beach and Dune: Yes



Cluster design used to conserve land and retain open space.

Pavement and construction minimized immediately landward of sand dunes to protect island vegetation and water supply.

Dune vegetation protected through careful construction of boardwalks.

Sand fences used to build new sand dunes.

Dune vegetation is extremely tolerant to salt spray and varying moisture conditions. Vegetation such as sea oats extends deep roots and grows upward to trap blowing sand. In areas where dunes do not exist or have been destroyed, snow fencing can be used to trap the sand, and vegetation planted to stabilize the newly formed sand dunes.

The appropriate place for development is landward of the most seaward stable dune or dune ridge. Characterized by heavier shrubs, this area offers natural protection from storm surges and high winds while reducing maintenance costs to the environment and the homeowner. Destruction of property constructed too near the shoreline has necessitated high public disaster relief costs. Permanent structures should be placed in areas which have proven to be stable over long periods of time.

GUIDELINES

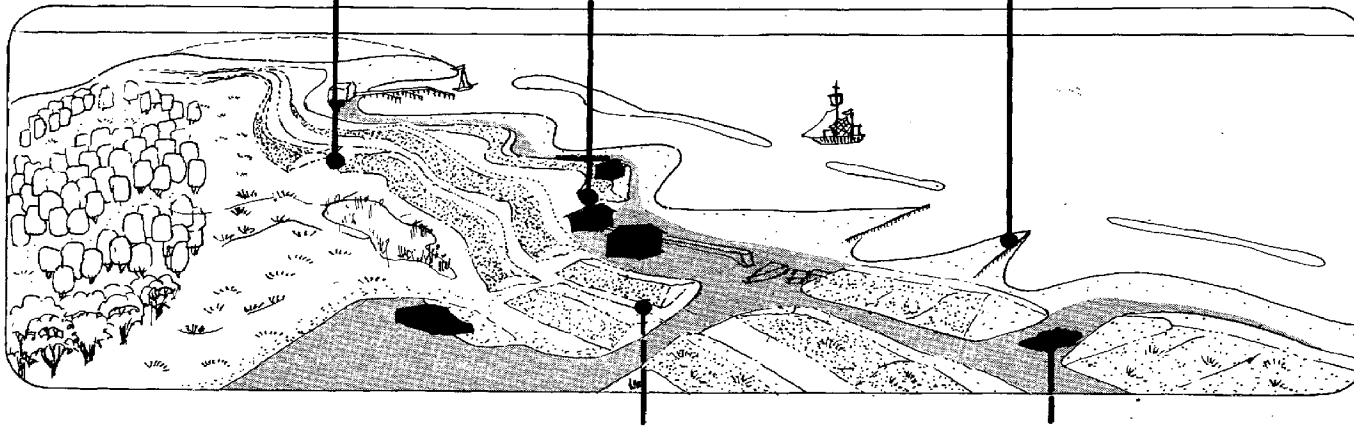
1. THE BEACH IS TOLERANT TO USES SUCH AS SWIMMING, PICNICKING, FISHING, PEDESTRIAN MOVEMENT, AND SUNBATHING. ITS USE SHOULD BE LIMITED TO THESE ACTIVITIES.
2. ACTIVE DUNES AND THE MOST SEAWARD STABLE DUNE ARE INTOLERANT TO DEVELOPMENT. THEY SHOULD BE CROSSED WITH WALKWAYS OR BRIDGES IN ORDER TO PRESERVE THEIR FUNCTION AS A PROTECTIVE BARRIER.
3. SINCE THE SYSTEM IS DYNAMIC AND CONSTANTLY CHANGING, THE RATE OF EROSION OF THE SHORELINE SHOULD BE DETERMINED PRIOR TO DEVELOPMENT.
4. DO NOT BULLDOZE SAND DUNES OR STABLE VEGETATION. THE BEACH/SAND DUNE AREA IS NATURE'S FREE PROTECTION FROM STORMS AND IS FAR MORE EFFECTIVE THAN SEA WALLS OR OTHER MAN-MADE STRUCTURES.
5. USE THE NATURAL BEACH AND SAND DUNE SYSTEM TO ENHANCE PROPERTY VALUES - BUILD LANDWARD OF THE MOST SEAWARD STABLE DUNE RIDGE.

Trampling of vegetation causes the breaching of sand dunes and further erosion.

Misuse of groins, jetties, seawalls and other shore protection structures may create further beach erosion.

Beach and Dune: No

Coastal development may block the flow of sand from sand dunes to the beach.



Destruction of dune vegetation allows sand to blow on inland properties.

Destruction of sand dunes for road and walkway construction may result in pavement damage in times of storms.

Beaches, dunes and offshore sand bars constantly change due to wind and wave action. They comprise a natural system that buffers upland property during times of storms. During fair weather, the offshore sand bars share their sand with the beach as sand is blown by the wind to form dunes. During storms, the sand dunes share their sand with the beach by providing a continual buffer from the sea. In Georgia, sand beaches are predominantly found on the coastal islands. The overall effect of many complex currents is that some beaches erode while others accrete or grow.

The system must be studied over a period of years to determine trends; a beach that accretes one year may change and erode several years later. Usually, dunes form in lines parallel to the beach. Dunes are termed active where windblown sand accumulates without a great deal of stabilizing vegetation, and stable when they are characterized by heavier shrubs, trees and vines. When active dunes are destroyed or eroded, the stable dunes provide a second line of defense against storm action. Because beaches are dynamic systems, corrective construction is not only expensive but often fruitless.

Checklist: the Natural Environment

Natural Systems Inventory

(Location of project)

- ☐ Beach and Dunes
- ☐ Island Woodland
- ☐ Marsh and Estuary
- ☐ Coastal Plain
- ☐ Floodplain
- ☐
- ☐

Natural Features Inventory

(Presence on Site)

- ☐ Topography and Drainage
- ☐ Soils
- ☐ Hydrology
- ☐ Vegetation
- ☐
- ☐
- ☐

Maps and Aerial Photography

- ☐ Topographic maps (USGS)
- ☐ Charts (U.S. National Ocean Survey)
- ☐ Resource Assessment Maps (DNR)
- ☐ Soil Survey (SCS)
- ☐ ASCS/SCS photos
- ☐ NASA/EROS photos
- ☐
- ☐

Notes

6. If a permit is granted by the Coastal Marshlands Protection Committee, post a copy of the permit in a prominent location on the site of the alteration.

7. If property is located below the high water mark and if there is no King's grant or State grant of title to marshland property, it may be necessary to sign a revocable license agreement sent by the State of Georgia. This agreement is issued to protect the claim of the State of Georgia to ownership to tidelands.

How to Obtain Department of the Army Permits for Activities in Navigable Waters

1. Determine if the proposed work or structure requires a permit from the Department of the Army, Corps of Engineers. Generally, permits are required for a work or structure in tidal areas below the mean high water line, or below the ordinary high water line in non-tidal areas. Permits are also required for the discharge of dredged or fill material into navigable waters and the transportation of dredged material for the purpose of dumping into ocean waters.

2. Obtain certification from the Environmental Protection Division, Department of Natural Resources that there is reasonable assurance that the proposed activity will be conducted in such a manner that it will not violate applicable water quality standards.

3. Complete application for permits for activities in waterways. Important information needed to complete the permit application includes the following:

- description of proposed activity
- names and addresses of all adjoining property owners
- location of proposed activity, including vicinity map
- detailed drawings (on 8" by 10-1/2" paper) showing plans, principle dimensions of structure or work, elevations, etc. (among other information)

4. Complete application for a permit to alter marshlands, if needed.

5. If property is located below the high water mark and if there is no King's grant or State grant of title to marshland property, it may be necessary to sign a revocable license agreement sent by the State of Georgia. This agreement is issued to protect the claim of the State of Georgia to ownership of tidelands below the high water mark.

4. Obtain information from HUD mortgage lenders about the availability of flood plain insurance.

5. Prepare a preliminary plat showing property lines, dimensions, setbacks, road design and other basic information. Such plat must be prepared by a licensed surveyor or engineer. Upon receipt of a preliminary plat, the planning office will circulate it to other local governmental offices for review.

6. Make needed changes in the preliminary plat following technical review. If no changes are required, the preliminary plat is forwarded by the planning office to the Planning Commission for official approval. This is the most important approval for subdivisions.

7. Following approval of the preliminary plat by the local planning commission, prepare the final plat. The final plat is a map similar to the preliminary plat which indicates for the permanent record the location and design of roads and utilities, as well as property dimensions.

8. For subdivisions with fifty or more unimproved lots, register with the Secretary of State.

How to Obtain A Marshland Permit

1. Determine if the property is located in coastal marshlands, as defined by the State Coastal Marshlands Protection Act of 1970. Marshlands may be located at an elevation of 5.6 feet above mean tide level or below, if certain types of saltmarsh grasses are present or if saltmarsh peat is found at the undisturbed surface.

2. Obtain zoning and any other necessary local government approvals. A certificate from the local government should be obtained to indicate that the proposal does not conflict with local regulations.

3. Obtain approval from the Environmental Protection Division, Department of Natural Resources, if the proposal involves disposal of sewage into ditches or community waste water, water supply, or solid waste disposal systems.

4. Complete application for a permit to alter marshlands. Important information needed to complete the permit application includes the following:

- location map on a U.S. Geological Survey Quadrangle Sheet (scale 1:24,000)
- plans for disposal of fill materials if necessary
- copy of deed to property, or written permission from the property owner to carry out the project
(among other information)

Applications should be submitted to the Coastal Marshland Protection Committee, Department of Natural Resources.

5. Complete application to the U.S. Army Corps of Engineers for a permit for a structure or work in or affecting navigable waters of the United States, if needed (see next section).

How to Obtain Building and Occupancy Permits

1. Determine if property is zoned to allow the type of building proposed. Current zoning maps are usually available in City and County building inspection offices.
2. If rezoning is needed, consult with the local planning office and local government officials to determine feasibility of proposed zoning change. No construction may take place if zoning is not appropriate for the proposed use.
3. Discuss proposed construction with local building official. The building official will provide the property owner with information on building, plumbing and electrical code requirements, as well as building permit procedures. Such discussions should precede the preparation of building plans and specifications.
4. Obtain written approval from the County Health Department to install a septic tank on the property (if needed). Most Health Departments require that a percolation test be performed by a registered engineer prior to issuing a septic tank permit. Obtain approval from the Environmental Protection Division, Department of Natural Resources, if the septic system discharges into a ditch.
5. Obtain information from mortgage lenders about the availability of HUD flood plain insurance. If flood plain insurance is not available, the saleability of the property could be greatly affected.
6. Develop building plans and specifications and complete building permit application. Detailed information on the property and proposed construction is required.

7. Undertake building construction, notifying building official at appropriate times for inspection. Several different types of building inspections are required. Following the final inspection, occupancy permits will be issued.

8. If a mobile home is proposed, a decal from the County Tax Assessor is required.

How to Obtain Subdivision Approval

Under the provision of the Georgia Land Sales Act, a review procedure similar to that of subdivision review is undertaken by the Area Planning and Development Commission if the development includes 150 lots or more. Some of the same guidelines listed below may be used in that review.

1. Discuss preliminary plans with local planning officials prior to preparing preliminary plats. (A sketch plan is very useful at this stage.) This provides the opportunity to review zoning, subdivision, and other local requirements, and obtain information about public facilities and historic and archaeological sites. Planning staff may take suggestions to the property owner which will save time and dollars at a later stage in the development process.
2. Obtain rezoning, if needed. Information about the feasibility of the proposed zoning change and rezoning procedures is available from local planning office.
3. Obtain written approval from the County Health Department to install septic tanks. Obtain written confirmation as to the availability of sewer and water facilities.

in Coastal Georgia (as of May, 1975)*

County/Municipality	Zoning	Subdivision Regulations	Building Permits Required	Sand Dune Ordinance
Effingham	2	2	2	NA
Springfield	2	2	2	NA
Rincon	2	2	2	NA
Guyton	2	2	2	NA
Chatham	1	1	1	2
Savannah	1	1	1	NA
Savannah Beach	1	3	1	1
Garden City	1	1	1	NA
Port Wentworth	1	1	1	NA
Pooler	1	2	1	NA
Bloomington	2	2	2	NA
Thunderbolt	1	3	1	NA
Vernonberg	1	3	1	NA
Bryan	2	2	2	2
Richmond Hill	1	1	1	NA
Pembroke	2	2	2	NA

1 - active
 2 - pending
 3 - not initiated
 NA - not applicable

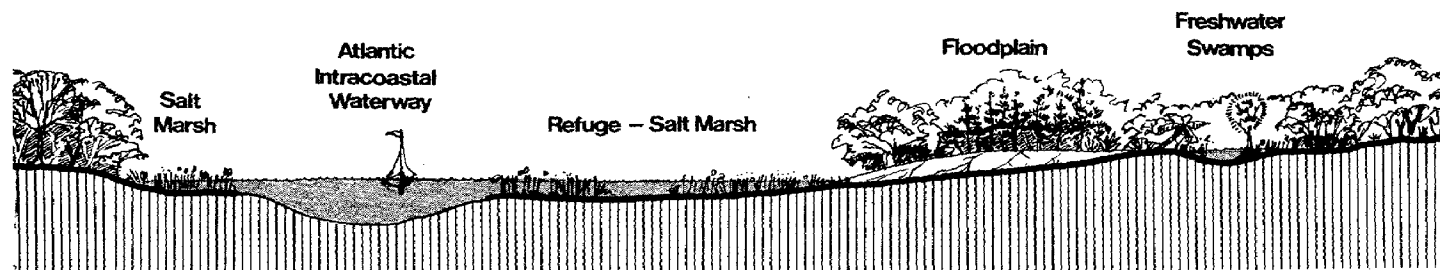
Sources: Information provided by the Coastal Area Planning and Development Commission, the Brunswick-Glynn County Joint Planning Commission, the Chatham County-Savannah Metropolitan Planning Commission.

* Information about land use controls in effect after this date should be obtained from local governments.

Local Land Use Controls

County/Municipality	Zoning	Subdivision Regulations	Building Permits Required	Sand Dune Ordinance
Liberty	2	2	2	2
Hinesville	1	1	1	NA
Flemington	2	2	2	NA
Allenhurst	2	2	2	NA
Walthourville	2	2	2	NA
Midway	2	2	2	NA
Riceboro	2	2	2	NA
Long	2	2	2	NA
Ludowici	2	2	2	NA
Mc Intosh	3	3	3	3
Darien	1	1	3	NA
Glynn	1	2	1	1
Brunswick	1	1	1	NA
Camden	1	2	3	3
Kingsland	3	3	3	NA
St. Marys	1	1	3	NA
Woodbine	1	1	3	NA

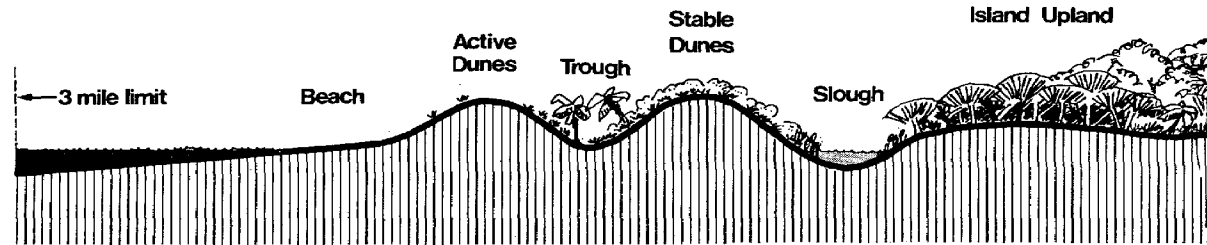
Regulations for Coastal Georgia



- * Permits for Activities in Navigable Waters
- * State Ownership to High Water Mark, Unless Crown or State Grant
- * State Permits for Alteration of Marshlands
- * Environmental Protection Regulations
- * Federal Legislation Protecting Historical and Archaeological Resources
- * Cultural Resources on Submerged Lands Owned by the State are State Property.
- * Coast Guard Permits for Causeways or Bridges
- * Flood Plain Insurance Regulations
- * Environmental Protection Regulations
- * Zoning and Subdivision Regulations
- * Septic Tanks and Private Wells
- * Construction Codes
- * State Land Sales Act
- * Inter-State Land Sales Full Disclosure Act
- * Federal Legislation Protecting Historical and Archaeological Resources

Summary of Governmental

Area of Jurisdiction



Regulations for Residential Development

- * Permits for Activities in Navigable Waters
- * State Ownership to High Water Mark, Unless Crown or State Grant
- * State Permits for Alteration of Marshlands
- * Environmental Protection Regulations
- * Federal Legislation Protecting Historical and Archaeological Resources
- * Cultural Resources on Submerged Lands Owned by the State are State Property.
- * Beach and Sand Dune Protection Regulations
- * Flood Plain Insurance Regulations
- * Environmental Protection Regulations
- * Zoning and Subdivision Regulations
- * Septic Tanks and Private Wells
- * Construction Codes
- * State Land Sales Act
- * Inter-State Land Sales Full Disclosure Act
- * Federal Legislation Protecting Historical and Archaeological Resources

officer of the State or his designee and designated metropolitan and regional agencies prior to funding approval. Project reviews under the A-95 review process are advisory to the funding agency. In the process of the review, however, State, federal, and local legal requirements are to be identified.

In the State of Georgia, the State Clearinghouse of the Office of Planning and Budget is the Governor's designee. This office coordinates review comments from several state agencies. In Georgia's coastal region, reviews are also made by the Chatham County-Savannah Metropolitan Planning Commission and by the Coastal Area Planning and Development Commission. Since funding agency guidelines vary with different types of projects and agencies, specific requirements should be reviewed prior to preparing a proposal.

Further information is available from:

Chatham County-Savannah Metropolitan
Planning Commission
2 East Bay Street
Savannah, Georgia 31402
(912) 236-9523

Coastal Area Planning and Development
Commission
P. O. Box 1316
Brunswick, Georgia 31520
(912) 264-6960

Administrator, State Clearinghouse
Office of Planning and Budget
270 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-3855

State Ownership to Mean High Water Mark, Unless Crown or State Grant

The State of Georgia claims ownership to all lands and waters below the high water mark, unless a valid grant from the King of England or the State of Georgia can be produced.

NOTE: JURISDICTION OF THE STATE OF GEORGIA UNDER THE COASTAL MARSHLANDS PROTECTION ACT IS FOUNDED UPON THE POLICE POWER AND IS INDEPENDENT OF ANY CLAIM OF OWNERSHIP.

GUIDELINES FOR GOVERNMENTAL REGULATIONS

1. REVIEW ALL RELEVANT LOCAL, STATE AND FEDERAL REGULATIONS BEFORE PURCHASING LAND OR MAKING DEVELOPMENT DECISIONS.
2. CONSIDER THE PHASING AND TIMING OF DEVELOPMENT IN RELATION TO AVAILABLE PUBLIC SERVICES.
3. ALLOW THE NECESSARY TIME FOR APPROPRIATE GOVERNMENTAL APPROVALS.
4. FOLLOW THE STEP-BY-STEP GUIDELINES LISTED IN THIS HANDBOOK.
5. CONTACT OFFICES FOR ASSISTANCE, AS NEEDED.
6. CHECKLISTS FOR CERTAIN APPROVALS ARE LISTED ON THE FOLLOWING PAGES.

Moss-Bennett Act (P. L. 93-291) provides authorization for funding in order to effect the preservation of historical and archaeological data, as a result of any federal construction project or any federally licensed activity or project. All public and private agencies should during the planning stage of a project where federal actions are involved, initiate inquiries through the federal agency regarding the necessity for and availability of funds for preserving historical and archaeological data under this law.

Executive Order 11593: This order, entitled "Protection and Enhancement of the Cultural Environment", issued May, 1971, requires federal agencies to institute procedures for insuring that federal agency plans and programs preserve and enhance non-federally owned sites, structures and objects of historical significance. This affects historical and archaeological sites which have the potential of being placed on the National Register.

Antiquity Act of 1906: This Act, with accompanying guidelines, provides for federal control of all archaeological resources on federally owned or controlled land and establishes a permit system for investigating them.

National Environmental Policy Act of 1969 (NEPA): This Act requires that environmental impact statements be submitted for any federally sponsored, funded or licensed project which may significantly affect the environment. This includes historic and archaeological resources as well as natural resources.

In addition, it should be observed that most federal

agencies have developed and published rules and guidelines for meeting their mandated responsibilities under federal law in regard to preservation of historical and archaeological properties.

All cultural resources found on submerged land claimed by the State of Georgia are the property of the State of Georgia and must be so regarded.

In order to avoid costly time delays and work stoppages, developers should provide a professional assessment of archaeological and historical resources present on the site. When considered in advance, cultural resources can often be compatibly integrated with the project proposal.

Information about historic and archaeological resources is available from local planning offices and from local historical societies. Additional information is available from:

Historic Preservation Section
Office of Planning and Research
Department of Natural Resources
270 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-2840

and

State Archaeologist
c/o Same address

State Clearinghouse Procedure

Under authority provided by the U. S. Office of Management and Budget (Circular A-95), certain projects requiring federal action undergo a review by the chief executive

Potable Water Supply - Owners of any public or community water supply system must obtain approval from the Director of the Environmental Protection Division, Department of Natural Resources for the construction and operation of the system. Information on Class III water supply systems should be obtained from the county health department. For further information see: Rules and Regulations for Water Supply Quality Control, Chapter 27-5-15, Georgia Department of Public Health.

Groundwater Use Permits - Permits from the Environmental Protection Division, Department of Natural Resources are required for the withdrawal of groundwater in amounts greater than 100,000 gallons per day. These permits are issued primarily to users of water from the principal artesian aquifer. Users of less than 100,000 gallons per day are not required to have permits. For further information see: Rules and Regulations for Groundwater Use, Chapter 391-3-2, Georgia Department of Natural Resources.

Land Reclamation - Any person involved in surface mining is required to obtain an annual surface mining license from the Chief, Land Reclamation Section, Environmental Protection Division, P. O. Box 4845, Macon, Georgia. The applicant must file a land use plan that provides for protection of adjacent natural resources and the rehabilitation of the affected land. In addition, he must file a performance bond of \$100 - \$500 per acre. For further information see: Rules and Regulations for Land Reclamation, Chapter 291-3-3, Georgia Department of Natural Resources.

Erosion and Sedimentation - Under the Georgia Erosion and Sedimentation Control Act of 1975, local governments are authorized to adopt erosion control ordinances for control of water pollution through sedimentation.

Before beginning a development a developer should contact local government offices to see if such ordinances are in effect, and if they apply to the proposed development.

Federal Legislation Protecting Historic and Archaeological Sites

The federal government encourages careful assessment of historic and archaeological resources prior to development through several different laws. These laws which directly affect development are summarized below:

Historic Preservation Act of 1966 (P. L. 89-665):
Any federal action, including project permitting and funding, requires that the National Register of Historic Places be consulted as a part of the planning process, to determine whether or not (1) National Register sites exist within the area affected by the project, (2) the nature of the effect on sites where such effect occurs, (3) if the effect upon National Register sites is an adverse one, the procedures by which such an adverse effect will be mitigated. It should be noted that the National Register of Historic Places in and of itself cannot be considered as providing planners with a complete inventory of the cultural resources that must be considered if the mandates of federal law are to be observed (please see below: Executive Order 11593).

Environmental Protection Regulations

The Director, Environmental Protection Division, Georgia Department of Natural Resources manages five programs which may affect or influence development in the coastal area of Georgia. These are Air Quality, Water Quality, Water Supply, Solid Waste Management and Land Reclamation Programs. Generally, management is accomplished by the Director through the issuance or denial of approvals and permits for the operation and/or modification of existing facilities and the construction of new facilities. Since these regulations apply to different types of residential development, it is important to check with the Environmental Protection Division before undertaking development.

As a general rule, the discharging or placing of any pollutant into the air, water or ground or any combination thereof is unlawful unless permitted under special conditions by the State of Georgia or the United States.

The following is a summary of information concerning approvals and permits. In addition, information may be obtained by contacting:

Director, Environmental Protection Division
Georgia Department of Natural Resources
270 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-4713

OR

Manager, Southeastern Region
Environmental Protection Division
Georgia Department of Natural Resources
P. O. Box 1675
Brunswick, Georgia 31520
(912) 264-7284

Water Quality - Any sewage system requires approval from the Director of the Environmental Protection Division before commencement of construction, modification and operation of the system.

A sewage system means sewage treatment works, pipelines or conduits, pumping stations and force mains and all other constructions, devices and appliances used for conducting sewage or other wastes to the point of ultimate disposal. For further information see Rules and Regulations for Water Quality Control, Chapter 391-3-6, Georgia Department of Natural Resources.

Air Quality - Any facility which emits any pollutant into the air requires a permit from the Environmental Protection Division for both the construction and operation of the facility. Open burning in other than predominantly residential areas for the purpose of land clearing for construction or right-of-way maintenance is allowed only if certain conditions are met. For further information see: Rules and Regulations for Air Quality Control, Chapter 391-3-1, Georgia Department of Natural Resources.

Solid Waste Management - No municipality, county, individual or corporation may engage in the handling of solid waste (disposal, collection, incineration, composting, etc.) without a permit. Before a new disposal site may be used, its location must be submitted and approved. In addition, all counties and municipalities must submit a long-range solid waste management plan by January 1, 1975. For further information see: Solid Waste Management Rules, Chapter 391-3-4, Georgia Department of Natural Resources.

communities are required to adopt flood plain regulations in order to (1) make their citizens eligible for federally subsidized flood insurance, (2) enable citizens and developers to obtain federally-backed loans of any kind, and (3) enable themselves, as local governments, to obtain certain federal grants. (Federal laws related include the Housing and Urban Development Act of 1968, as amended by the Housing and Urban Development Act of 1969, the Flood Disaster Protection Act of 1973 and the Housing and Community Development Act of 1974.)

Flood plain regulations must include requirements for ground-floor elevations of new residences to be at or above the elevation of the 100-year frequency flood; commercial and industrial buildings to either elevate likewise or flood-proof to that elevation.

In the "Coastal High Hazard Area", subject to storm surges, structures must be built on pilings, and elevated above the height of the storm surge.

Before purchasing land or undertaking development,

property owners should obtain information about flood plain insurance from their local government or insurance agency. Technical assistance to communities developing flood plain zoning regulations is available from:

Resource Planning Section
Office of Planning and Research
Department of Natural Resources
270 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-5164

OR

Federal Insurance Administration
Atlanta Regional Office
U. S. Department of Housing and Urban
Development
1371 Peachtree Street, N.E.
Atlanta, Georgia 30309
(404) 526-2341

Permits for Causeways and/or Bridges

Construction of a bridge or causeway may be necessary to reach land for residential development. The issuing of permits for causeways and/or bridges affecting navigable waters is the responsibility of the U.S. Coast Guard.

Further information is available from:

Commander - 7th Coast Guard District
1018 Federal Building
51 S.W. First Avenue
Miami, Florida 33130
(305) 350-4108

Interstate Land Sales Full Disclosure Act Requirements

Under requirements of the Interstate Land Sales Full Disclosure Act, persons engaged in interstate sale or

leasing of 50 or more unimproved lots must register with the U.S. Department of Housing and Urban Development. The law also requires that property buyers be furnished with a property report in advance of a sale, even in cases where the buyer is a State resident. Registration information may be obtained from the Office of Interstate Land Sales Registration. Registration is made directly to the following address:

Office of Interstate Land Sales Registration
Atlanta Regional Office
U. S. Department of Housing and Urban Development
230 Peachtree Street, N.E.
Atlanta, Georgia 30303
(404) 526-4364

Flood Plain Regulations

Under the National Flood Insurance Program, certain

Permits for Alteration of Marshlands

The Coastal Marshlands Protection Act of 1970 insures that Georgia's coastal marshlands are used in the public interest for the benefit of all citizens. Before marshlands can be altered, a permit from the Department of Natural Resources is required. Any activity which harms navigation, increases erosion, or interferes with the conservation of fish and shellfish is not in the public interest, according to provisions of the Act.

Specific guidelines to assist the applicant are included in Rules and Regulations for Coastal Marshlands Protection Act, Chapter 391-4-12, Department of Natural Resources. The jurisdiction of the Coastal Marshlands Protection Act includes any marshlands or salt marshes in the State of Georgia, within the estuarine area of the State, whether or not the tide waters reach the littoral areas through natural or artificial water courses. "Estuarine area" means all tidally-influenced waters, marshes, and marshlands lying within a tide-elevation range from five and six-tenths (5.6) feet above mean tide level and below.

Information regarding requirements for permits to alter coastal marshlands is available from:

Marshlands Protection Section
Game and Fish Division
Department of Natural Resources
P. O. Box 1097
Brunswick, Georgia 31520
(912) 264-7265

Special marshland protection regulations may be incorporated in local zoning ordinances. Offices listed in the Construction Code Section can provide information about special zoning requirements.

U.S. Army Corps of Engineers Permits for Activities in Navigable Waters

A permit is required by the U. S. Army Corps of Engineers for any structure or work in or affecting navigable waters of the United States.

The decision whether to issue a permit is based upon an evaluation of the probable impact of the proposed activity on the public interest and includes application of the guidelines promulgated by the Administrator, Environmental Protection Agency (EPA) under authority of Section 404(b) of the Federal Water Pollution Control Act Amendments of 1972. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. No permit will be granted unless its issuance is found to be in the public interest.

Information concerning the processing of Department of Army Permits has been published in the Federal Register, Volume 39, No. 65, Wednesday, April 3, 1974.

Information and technical assistance concerning permits in navigable waters is available from:

Department of the Army
Savannah District, Corps of Engineers
P. O. Box 889
Savannah, Georgia 31402
(912) 233-8822

Long County Health Department
P. O. Box 276
Ludowici, Georgia 31316
(912) 545-3631

Environmental Protection Division
Department of Natural Resources
270 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-4713

Land Use Unit
Department of Human Resources
47 Trinity Avenue
Atlanta, Georgia 30334
(404) 656-4876

Regulations for Private Wells

In Glynn and Chatham Counties only, permits are required to install individual water supply systems (wells). These permits may be obtained from the county health department.

Sand Dune Protection Regulations

The City of Savannah Beach and Glynn County are the only communities in coastal Georgia that currently have adopted sand dune protection regulations. The intent of these regulations is to protect the public health, safety, and welfare by insuring that development within certain specified districts occurs without adversely affecting the natural functioning of the beach and sand dunes. No building is permitted within certain areas of the beach without a permit from the local unit of government.

Information on the City of Savannah Beach beach and sand dune protection ordinance is available from:

City Hall
Savannah Beach, Georgia
(912) 233-9321

Information on Glynn County regulations is available from:

Brunswick-Glynn County Joint Planning Commission
P. O. Box 1495
Brunswick, Georgia 31520
(912) 265-3313

Other coastal counties are in the process of developing beach and sand dune protection regulations.

Georgia Land Sales Act Requirements

Under provisions of the Georgia Land Sales Act, registration of large subdivisions (150 lots or more) is required. The law requires that the developer file certain information with the Secretary of State, and requires that prospective purchasers be provided with accurate information concerning the land in question.

Prior to registering with the Secretary of State, the developer must obtain approval from the local planning agency or the Area Planning and Development Commission. Reviews made by the planning agencies generally include considerations such as public services, safety, and design and engineering standards. Further information is available from:

Office of the Secretary of State
State Capitol Building
Atlanta, Georgia 30334
(404) 656-2869

Further information is available from the following offices:

Chatham County Health Department
Eisenhower Drive at Meridian Road
P. O. Box 6648
Savannah, Georgia 31405
(912) 354-2420

Bryan County Health Department
Courthouse Annex
P. O. Box 35
Pembroke, Georgia 31321
(912) 653-4331

Liberty County Health Department
Oglethorpe Highway
P. O. Box 231
Hinesville, Georgia 31313
(912) 876-2173

McIntosh County Health Department
P. O. Box 576
Darien, Georgia 31305
(912) 437-4561

Glynn County Health Department
501 Mansfield Street
P. O. Box 1219
Brunswick Georgia 31520
(912) 265-0941

Camden County Health Department
4th Street
P. O. Box 366
Woodbine, Georgia 31569
(912) 576-5407

Effingham County Health Department
P. O. Box 325
Springfield, Georgia 31329
(912) 754-6647

For information about construction codes as well as zoning, contact the local building inspector or the secretary of the local planning commission:

Chatham County-Savannah Metropolitan
Planning Commission
2 East Bay Street
Savannah, Georgia 31402
(912) 236-9523

Coastal Area Planning and Development
Commission
P. O. Box 1316
Brunswick Georgia 31520
(912) 264-6960

Brunswick-Glynn County Joint
Planning Commission
P. O. Box 1495
Brunswick, Georgia 31520
(912) 265-3313

Septic Tanks with Nitrification Fields

A septic tank followed by a nitrification field is a sewage disposal system which may be used where the cost of other more efficient systems is prohibitive. However, no owner, lessee or agent of any facility designed for human occupancy or congregation is to install or construct such a system without first obtaining a construction permit from the County Health Department. Once the system as approved for construction is installed, it is not to be covered until a final inspection is made by the county health department to determine compliance with the provisions of the construction permit. For further information see: Rules and Regulations for Individual Sewage Disposal Systems, Chapter 270-5-25, Georgia Department of Human Resources.

A potential land owner should check with the County Health Department prior to purchasing the lot in order to determine the likelihood of obtaining a septic tank permit. This step is especially important in rural areas where extension of municipal sewer and water lines is not possible.

Communities in coastal Georgia that have zoning regulations in effect are listed at the end of this section. In communities where no zoning exists, it is advisable to discuss development plans with local officials to insure that appropriate public services are available and that neighboring land uses are compatible with the proposal.

Subdivision Regulations

Subdivision regulations are locally-adopted controls which govern the process of converting raw land into building sites. Before a developer can improve or sell parcels of land, he must have a plat map approved by the local planning commission.

Subdivision regulations usually specify procedures for obtaining plat approval, as well as minimum standards for design of roads, parcel layout, utilities, sewage and other facilities. Pre-submission conferences with a sketch plan are strongly encouraged by local planning offices to insure that all factors are being considered by the developer. Official approvals of the preliminary plat and final plat should then follow.

The availability of utilities, such as sewer, water, gas, and telephone should be determined at an early stage. This information is provided by the planning department, planning commission, the city or county engineer, and other offices.

Rules and Regulations for Individual Sewage Disposal Systems, Chapter 270-5-25, Georgia Department of Human Resources, administered by county health departments, requires the submission of plans and other data for review and approval prior to the physical development of a subdivision of two or more lots if septic tank-tile field sewage disposal systems are to be utilized.

Subdivision regulations provide protection to the consumer by insuring that the lot for sale is buildable. Subdivision regulations also protect the developer against substandard competitors who may destroy the value of a well-planned subdivision by placing poor quality development nearby.

Under provisions of the Georgia Land Sales Act, a review of proposed development by the Area Planning and Development Commission is required when there are 150 lots or more in the proposed development, and when there are no subdivision regulations.

Construction Codes

Building codes promote sound and safe construction by regulating the types of materials used and manner of construction. Plumbing, electrical, and housing codes may exist in a community to protect the health and safety of occupants. Special standards for construction may be required by the Federal Housing Administration (FHA) and the Veterans Administration (VA), in order to obtain mortgage insurance.

Building codes are enforced through a system of permits and inspections. A person planning to construct a building or make major repairs must first submit plans and specifications to the local building inspector. Georgia law requires that a registered architect prepare documents for a building over a certain size.

If a proposed structure meets the code requirements, a building or construction permit is issued. On-site inspections may then be made to insure that construction proceeds according to approved plans. Following the successful completion of construction, occupancy permits are issued.

Credits

Special assistance on this project was provided by the Coastal Area Planning and Development Commission, the Brunswick-Glynn County Joint Planning Commission, the Chatham County-Savannah Metropolitan Planning Commission, and the Georgia Land Development Association.

This handbook reflects the suggestions of many additional organizations and individuals who made review comments on early drafts.

[REDACTED]

[REDACTED]

